GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM
Instrument Procedures Subgroup
April 24-25, 2001
RECOMMENDATION DOCUMENT

FAA Control # 01-01-234

SUBJECT: Designation of Maximum Altitudes in the Final Approach Segment

BACKGROUND/DISCUSSION: Issue raised by NBAA after examination of SIAPs to Runway 7 at Orlando Executive Airport [KORL].

Apparently due to ATC separation considerations with KMCO traffic, the ILS Rwy 7 and GPS Rwy 7 approaches each designate a maximum altitude of 1160 MSL prior to reaching 2.8 Along-Track miles from the AER.

In the event of a Missed Approach prior to the 2.8 NM ATD fix, pilots may be required to descend during the go around maneuver. A requirement to descend while going around – inside a Final Approach Fix, in Instrument Meteorological Conditions – not only contradicts the universe of pilot training precepts for Primary, Instrument and Type Ratings, it also introduces technical issues which may not have been considered.

First, an approach briefing in a multi-crew cockpit would have to include a discussion of the go around procedure to be followed in the event of a Missed Approach both above and below the MDA/DA. While standard procedure may suffice once the aircraft is below 1160 MSL, the following callouts and crew actions illustrate the absurdity and confusion that would accompany an earlier decision to go around:

- "Going around...."
- "Reducing Power"
- "Flaps (approach setting)"
- "Positive descent" (or should this callout be "negative rate"?)
- "Gear up"
- "Ignore any 'TOO LOW - GEAR!' warnings from GPWS"

Further, the profile view of Jeppesen chart for the GPS Rwy 7 approach implies that the database VNAV path will clear the step-under fix. While this may be true in theory, there are unacceptable aspects to flying the approach in real world IFR conditions.

Calculation reveals that the database VNAV path would approximate 1100 MSL at the 2.8 nm ATD fix – a margin of only 60 feet – assuming zero FTE. Current VDI scaling cannot support that level of precision, nor is it likely that even mandatory use of the FD or even AP would guarantee the required performance.

Worthy of note is the fact that the NDB Approach to the same runway has no equivalent maximum altitude limitation in the Final Approach Segment.

Even if current TERPS policy does not expressly prohibit publication of a maximum altitude in a Final Approach Segment, NBAA feels that the concept merits review by the ACF.

RECOMMENDATION: AFS-420 should establish policy in FAA Order 8260.19 to prohibit maximum altitudes within the final approach segment.

COMMENTS: This affects FAA Order 8260.19 and AFS-420 policy directives.

SUBMITTED BY: Steve Bergner
Chairman NBAA FMS/Charting Subcommittee
National Business Aviation Associates, Inc.

Phone: 845-583-5152
Fax: 845-583-5769 fax
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Initial Discussion (Meeting 01-01): Dave Sheehan presented the issue on behalf of NBAA. The issue was prompted by the approach design for SIAP's to runway 7 at Orlando Executive Airport, FL (KORL). Two of the approaches (LOC and GPS) have an altitude restriction of 1160' maximum at ORL 3 DME/2.8 ATD to threshold. In the event of a go-around prior to reaching this point, aircraft may be required to descend during the missed approach maneuver. The restriction is apparently on the procedure for ATC separation considerations with Orlando International (KMCO) traffic. It should also be noted that the VOR/DME RWY 7 SIAP has a maximum altitude of 1100 at ORL 4DME (3.8 NM to threshold), and the NDB RWY 7 SIAP has no restriction. NBAA recommends that AFS-420 establish policy in FAA Order 8260.19 to prohibit maximum altitudes within the final approach segment. After discussion, the subgroup agreed that a maximum or hard altitude restriction in the final approach segment reflects poor procedure design. Marty Walker, ATP-120 agreed to coordinate with Orlando air traffic to determine the need for the restrictions. Brad Rush, AVN-160, agreed to review the design anomalies and the reason for the variances in the fix location. Dave Eckles, AFS-420, will review whether a policy directive is warranted. ACTION: ATP-120, AVN-160 and AFS-420.
